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ABSTRACT

Begun in 1988 to address issues of technology and education, the Maricopa County Community College District's (MCCCD's) Ocotillo program has expanded to provide a forum for faculty and staff to address general issues of the quality of learning and instruction in MCCCD through year-long committees on subjects of interest. This document features the year-end reports for 1993-94 of the following nine Ocotillo committees: (1) the Authoring Languages Committee, highlighting the need for college and district support of faculty programming activities; (2) the Emerging Technologies Committee, reviewing its efforts on the Internet and indicating that meeting attendance was poor; (3) the External Networks Committee, discussing the status of District networks, user training, newsgroup access, policy needs, and user expectations of MCCCD faculty; (4) the Information Literacy Committee, describing the group's activities and plans for implementing an information literacy curriculum; (5) the Intellectual Rights Committee, reviewing the efforts of the committee to increase copyright law awareness, define copyright guidelines for multimedia, and develop a policy on proprietary rights; (6) the Mechanisms for Technology and Evaluation and Implementation Commission, identifying the methods in which technology may be integrated into college systems; (7) the Open-Entry/Open-Exit Committee, describing issues related to education that does not follow traditional timelines; (8) the Technology-Based Testing Committee, describing its efforts to identify models for a technology-based testing system; and (9) the Technology Training Committee, discussing its plan to train faculty to use current computer technologies. (MAB)

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OCOTILLO

improving learning through technology

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JC 950 040

REPORT 94

Ocotillo Report '94 is a publication of the Maricopa Center for Learning and Instruction for the faculty, staff, and administrators of the Maricopa County Community College District.

Ocotillo Report '94 Staff

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Message from the Vice Chancellor

Painting Outside the Lines

When we first started Ocotillo in 1988, it was an attempt to answer some questions I had asked our faculty about technology and its role in learning. Ocotillo became a wonderful opportunity for faculty and staff across the District to get together and become involved not only in answering those questions but in generating additional ones. Our main concern then was to learn how to manage technology to enhance the teaching/learning process.

Ocotillo has been and continues to be an evolving, learning process. Branches blossomed into new agendas and fostered continuing ones that were still important. Some branches died and others were revived after hibernation. And, over the years, Ocotillo has changed as people began to "paint outside the lines" of the Ocotillo picture.

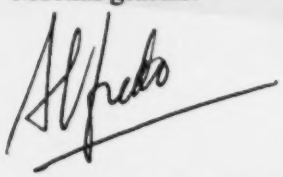
Although technology has remained an integral element of Ocotillo, it no longer is the key component. Committees have begun to shift their focus and dialogues to the larger and broader agenda which drives the entire District—**learning**. So, as part of our maturity with Ocotillo, we have discovered that technology is only one of many tools we use to enhance education, and that to talk about the underlying premises of learning is more meaningful to everyone.

Ocotillo has been and continues to be the mechanism by which faculty and staff with a common interest can come together to explore issues of teaching and learning. It provides faculty with a forum for voicing their reflections and insights regarding the quality of learning and instruction across the District. It works!

I am grateful to all our faculty and staff who have participated in Ocotillo during 1993–94, particularly those who have served as chairs and co-chairs of the different Ocotillo committees. I thank Maria Hesse, Faculty Chair, and Maria Harper-Marinick, Project Manager, for their leadership and vision for Ocotillo this past year and as they facilitate and nurture ideas for the next Ocotillo.

I look forward to continuing a most productive dialogue on learning through Ocotillo next year.

Muchas gracias.



Alfredo G. de los Santos Jr.

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A Word from the General Faculty Chair and Project Manager . . .

As we asked committees to prepare their year-end reports, we recognized that there were dialogues taking place within the leadership of Ocotillo which were compelling. Several changes that have occurred this year and will continue the next are particularly significant. First, Ocotillo has been redefined as a faculty forum for dealing with issues of teaching and learning in general. Second, the process by which committees make recommendations for change has been modified. Third, the Ocotillo Technology Showcase will be held in conjunction with the Student Success and the Academic Advising conferences.

• Emphasis on Teaching and Learning

As Dr. de los Santos says in his message, the nature of Ocotillo has changed over the years. It started as a technology-related project. However, in the past few years it has moved beyond that. For example, the *Intellectual Rights Committee* has dealt with issues of copyright law, first as it pertained to software development, but also as it applied to books, videos, and other media. The *Mechanisms for Technology Evaluation and Implementation Committee* has studied innovations which are successful in our District, such as Electronic Forum and Collaborative Learning, whether they are technology-based or not.

Next year, Ocotillo committees will deal with a variety of topics. Some will be very specific to technology (i.e., the Internet, technology training for faculty, etc.); others will not (i.e., service learning, total quality learning, etc.). All topics will be related to issues of teaching and learning. Ocotillo has become a District-wide think tank on issues of teaching and learning, a faculty-driven endeavor that is well-supported by District staff, and a network of people who are interested in creating an effective learning environment for students.

• New Method For Making Recommendations

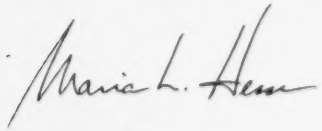
Originally, Ocotillo committees were involved in discussing visions, dreams, and our future with technology. As some committees met, they moved past broad visions and began developing specific recommendations and action plans. Traditionally, these recommendations have been included in the Ocotillo year-end report. It was assumed that people who read the report would move on items that pertained to their area or department. Sometimes, this process worked; other times, it did not. Committees felt that the suggestions they made were not always given adequate consideration by the appropriate groups. And with more committees beginning to make recommendations, this created a challenge.

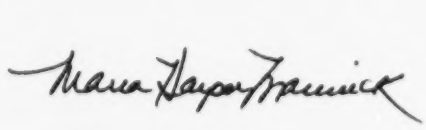
In an effort to ensure that specific committee recommendations were being heard by the "right" groups of people within the District, a new process for making recommendations has been developed. Committees are being asked to discuss their suggested recommendations with the Ocotillo General Faculty Chair and the Project Manager. Once formulated, recommendations will be directed to and discussed with Dr. de los Santos. He will then forward them to the appropriate parties for discussion and review. The new recommendations process is illustrated on the following page. We welcome your feedback on the suggested process.

• Technology Showcase

The annual Ocotillo Technology Showcase will be combined with the Student Success Conference and the Academic Advising Conference in one annual event. Faculty and staff will be provided with outstanding professional development opportunities including excellent keynote speakers, an extensive technology showcase, and many sessions on teaching and serving students effectively. Since resources are limited, the combined event will ensure continued planning of a top-quality event and increase the opportunities for networking among faculty, advisors, and other staff.

It's been a challenging and rewarding year working on Ocotillo. We've been lucky to interact with many wonderful faculty and staff who are striving to create a dynamic and effective learning environment for our students. As always, we welcome suggestions for improving Ocotillo.





Maria L. Hesse
Ocotillo Faculty Chair

Maria Harper-Marinick
Ocotillo Project Manager

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Process for Making Recommendations

ROLES:

Ocotillo Committees

- Discuss and prioritize issues.
- Formulate a problem statement.
- Generate and describe alternative solutions to the problem, along with the implications for the various alternatives.
- Identify, involve, and consult the appropriate "players".
- Strive to achieve group consensus.
- Propose a recommendation which includes the plan, the timeframe, responsible parties, etc. (See guidelines below.)

General Faculty Chair and Project Manager

- Act as a sounding board.
- Help formulate sugggestions.
- Create linkages.
- Help avoid duplication of efforts.

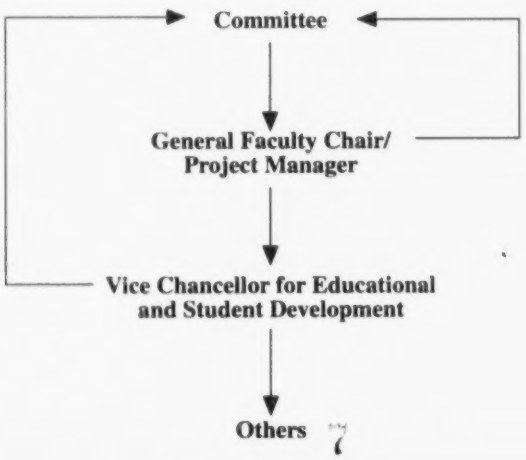
Vice-Chancellor for Educational and Student Development

- Evaluate recommendations:
  - May wish to discuss issues directly with committee or committee chairs.
  - May ask committee to revise recommendation(s).
- Decide the action to be taken.
- Decide to whom the recommendation(s) should be directed.

RECOMMENDATION GUIDELINES:

- Focus each recommendation around one particular topic, issue, or problem.
- Give a concise background of the problem or issue.
- Provide a rationale—why is this change important? What will the impact be if the recommendation is put in place or not put in place?
- Include information about the various solutions the committee discussed, including implications and pros and cons.
- Prioritize the alternative solutions and explain their rationale.
- Include the key players and desired timeframe.
- Use a written format.

FLOW OF INFORMATION:



Authoring Languages

Members

Faculty Chair: Bernie Combs, SCC
Co-Chair: Alan Levine, DIST

Sharon Blanton, SCC
Ron Bleed, DIST
Elizabeth Cooper, GCC
Miguel Corzo, GCC
Ken Costello, MCC
Michael Farabee, EMCCC
Betsy Frank, RSCC
Rod Freeman, EMCCC
Karen Hoblit, GCC
Jim Hogan, SCC
Dorothy McKay, PC
Donna Rebadow, PVCC
Jim Tipton, MCC
Emma Walters, SCC
David Weaver, CGCC
Sandra Wells, SCC
Chuck West, GCC
Yvonne Zeka, GWCC

Charge

The Authoring Languages Committee is charged with identifying the issues, requirements, and alternatives associated with technology-based learning packages. The group will investigate various development tools, discuss when to use or adapt commercial packages, discuss when and how faculty would develop their own courseware, and may recommend authoring languages which should be pursued for use within the Maricopa system.

Introduction

Two central directives can be distilled from the above charge:

1. Identify important issues of authoring within our District.
2. Decide which authoring tools/ languages the Maricopa system should support.

The committee decided to pursue the first directive. Most developers are using HyperCard, Toolbook, Macromind Director, and, to a lessor extent, Course Builder, Authorware Professional, and Interface Builder (for the NeXT platform). To borrow from the metaphor of Alan Jacobs' 1994 report on instructional technology, *It's a River, Not a Lake*, the popular tools themselves are just *currents in the river*. To view our central task as one of supporting certain authoring languages does not address real issues related to the use of authoring languages. Our task is to view development as a *lake*, not a *river*. And so, the committee chose to examine the more global issues related to development using authoring languages.

Year in Review

The Authoring Languages Committee held five meetings in 1993-1994 at different locations. The meeting sites provided an opportunity to see the authoring environment at Phoenix College, Glendale Community College, and the MCLI. Several committee members participated in the Copyright Issues video conference with lawyer Ivan Bender. Our committee also secured a detailed authoring system evaluation document from Northern Arizona University. In addition, the committee conducted a survey to gather data on the present perceptions and uses of authoring systems within the Maricopa system (See Appendix 1).

The following summary presents the results of our discussions. It is divided into four categories:

- Development Requires Time and Money
- Models for Development Team, Tool Kit, and Training
- Communication/Collaboration
- Distribution of Products and Access to Information/Image Bases

Development Requires Time and Money

- Both District and colleges provide support, but it is inadequate and uneven.
- There is a perception of less District support for instructional authoring than for administrative programming.
- The largest problem is time and money for content experts and programmers.
- Developers want and need contiguous blocks of time for this intensive development. Suggestions include: release time, grants, summer sabbaticals, temporary reassignment.
- The money will most likely have to come from within our system (i.e., doing more with what we already have).
- Possible sources of money include: user fees, grants, business co-operatives (i.e.,with publishers), commissions from the sale of authored programs.

For clarification, Appendix 2 describes the District's position on faculty ownership of developed products.

Models for Development Team, Tool Kit, and Training

- The ten Maricopa Colleges and Center are all in different stages of evolution. Some colleges are in a position to produce multimedia CD-ROM disks while other colleges do not have high-end computer resources for development much less student use.
- Each college should consider having a multimedia authoring center.
- Teams should consist of content experts, a technologist (hardware expert), an instructional designer, a programmer, and a graphics/video artist.
- Colleges are acquiring tool kits, authoring languages and hardware, to fit their present needs. Colleges also need to analyze resources for providing multimedia that runs over a network.
- Tool Kit platform and software are not major issues. HyperCard, Toolbook and Macromind Director are the most used tools. A good tool is the one that can do the job.
- MCLI is and should be part of the team, but roles and relationships should be clarified and expanded to help development at colleges.
- District should support authoring by site license purchases when possible.
- A new training model should be developed—Not the-greatest-good-for-the-greatest-number but "on demand" support of leadership and innovation, small workshops, and more advanced training in authoring languages and technologies.

Communication/Collaboration

- Presently there is too little collaboration, particularly inter-college collaboration. Developers view Districtwide collaboration as imperative for inter-college adoption of authored materials.
- District has made good efforts through Ocotillo and its committees, MCLI, and internal grants.
- Colleges have made less effort but see tremendous potential in sharing resources, expertise, software, authored programs, and ideas.
- District and colleges have different roles and perceptions concerning support for multimedia development. (See Appendix 3)
- Possible answers within the District include: paid mentors, professional growth projects, electronic conferencing, developers groups. Answers outside of the District include: Internet, bulletin boards, Gopher, shareware, consortiums with publishers and other educational institutions (ASU?).

Distribution of Products and Access to Information/Image Bases

- How can we market, both within and outside of the District, our authored products? The District could help find markets as a stimulus and funding mechanism and for District promotion. It may have more commercial "clout" than individual colleges.
- Copyright issues: If a project is for classroom use, a developer has access to much more under the rules of "Fair Use." However, if the ultimate purpose is to sell a product, the material should be all original or permission should be granted. This is a decision that must be made early in the development process.
- We should pursue agreements with providers of raw materials such as video clips, still images, and music (i.e., publishers, news agencies, video vendors, etc.).
- Stimulate local production of graphic design images, video clips, etc., through our art and graphics students.
- We should make a better effort to pool our own information/images.

Conclusions/Future Goals/ Specific Recommendations

1. If we want to be leaders in instructional technology, we must grant innovators continuous blocks of time (such as summer sabbaticals or temporary reassignments) and fund development efforts. In his article, "What's Wrong With Multimedia in Higher Education," Dr. Martin Solomon (1994) points out that the teaching load is so high (normally 15 or 18 contact hours per semester) in teaching institutions that there is insufficient time for faculty development efforts. He further states that it requires 100 different people at a cost of about $15 million to produce 120 minutes of interesting material (a movie), while a typical higher education semester comprises over 2,000 minutes. Alan Jacobs (1994) as one of his final recommendations calls for increased funding for instructional technology development for innovative projects. From our experiences, authoring is an intense exercise that cannot be dabbled in with an hour here and there.

2. We must encourage colleges, in conjunction with District, to develop the "team and tool kit" concept as an instructional technology stimulus. Development teams should include content experts, a technologist (hardware expert), an instructional designer, programmers, and perhaps a graphics/video artist. Tool kits should include "appropriate" authoring tools and hardware for development. One way to develop the "team and tool kit" concept is through training.

   In keeping with this team approach, we should also develop a needs assessment process/form that begins with the definition of an instructional problem and ends with the recommendation of a solution that may or may not be technological. This should be designed with input from other colleges and collaboration with MCLI.

3. We must find creative ways to promote communication and collaboration. Solomon (1994) points out that multimedia has failed to spread, in part, because of the "NIH (not invented here)" syndrome. Each faculty member wants to tailor the course to fit precisely his or her notion. Only by identifying common needs and by working toward common solutions can we hope to overcome the NIH syndrome. We also need to forgo our pride and take a closer look at using commercially available software.

4. We must work to facilitate developers' access to the raw materials of multimedia production. This includes forging new relationships with the purveyors of information (publishers, news agencies, sources of video and graphic materials, and electronic networks and sources), as well as doing more sharing among ourselves.

5. Our committee should organize and promote different "users groups" in order to share ideas and techniques. With just our meetings this has already started to happen on an informal basis. We would like to see a periodic gathering for a developers' workshop in which we can exchange ideas rather than just show off the final products.

6. We recommend more District support for external grants writing so that developers may be more successful in obtaining outside funding sources.

References

Jacobs, A. (1994). *It's a River, Not a Lake: A Report on Instructional Technology for the Maricopa Community Colleges*. Tempe, AZ: Maricopa Community Colleges, Maricopa Center for Learning and Instruction.

Solomon, M. B. (1994). What's Wrong with Multimedia in Higher Education?. *T.H.E. Journal*, 21 (7), 81-83.

Appendix 1

Note: the full report is available from MCLI

Ocotillo Authoring Languages Survey, Fall 1993 Executive Summary

Ten of the 18 initial responses to the Fall 1993 Ocotillo Authoring Languages Survey were from Scottsdale Community College. Four responses came from Chandler-Gilbert Community College, two from Paradise Valley Community College, and one each from Mesa and South Mountain Community Colleges. Respondents represented 11 disciplines.

Results from the survey indicate that:

- Authoring can be defined various ways.
- Macintosh is the most-used platform for authoring, followed by IBM/PC-compatible and Amiga.
- Lack of time and support were the biggest problems encountered when working with authoring programs.
- Respondents have had varying degrees of success with authoring programs.
- Respondents generally believe they have received insufficient support for development.
- Respondents design most frequently for lectures, presentations, and computer labs.
- Experience in developing programs varied from no experience to about 30 programs.
- About half of the respondents have used commercially available courseware and have had mixed results with it.

Appendix 2

Excerpt from a memo from Janice Bradshaw, MCCCD General Counsel, December 14, 1993.

Software developed by a faculty member on his/her own time belongs to the faculty member, and he/she can sell it commercially with no strings attached.

Section A.4.10 and Section C.8 of the RFP refer to materials generated during a sabbatical and pursuant to an Educational Development and/or Professional Growth Project. If materials are developed under one of these sections, the faculty member owns the copyright and can sell it commercially. The District does retain the right to use the materials without payment of royalties.

There are, however, many circumstances which faculty members develop materials, and often the material is not created under one of the above sections. In these instances, it is advisable for the faculty member, through his/her Dean of Instruction, to contact Legal Services Department to analyze the extent of the faculty member's rights.

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Appendix 3

A Tentative Summary of District and College Roles and Support of Faculty Authoring Efforts

Some basic assumptions defined by the committee:

- The local content expert is the best judge of what the students need and what appropriately satisfies those needs. *(Editorial Note: Instructional design also plays an important role in identifying needs.)*
- Authoring is best achieved by a team approach. This team should consist of the content expert, an instructional designer, a technologist (hardware), and a programmer.
- Good development takes time. Continuous rather than intermittent blocks of time work best for this sort of intensive development.

The committee also defined the different roles that colleges and District seem to have concerning support for multimedia development.

College Roles

- Provides support (money via EDP, Summer Professional Growth, Extended Contract) for development and money for hardware.

  Money provided for both development and hardware, but too little of each.

- Provides "teams" which vary from college to college (content expert plus instructional design, technologist, programmer).

  Biggest problem seems to be money/time for both content expert and programming support.

- Some colleges offer assistance in grant writing.

  Time and skills of the developer as a writer may be problems.

- College supports mostly instructional but also "administrative."

  Colleges perceive inadequate college resources to support instructional computing, development, and programming.

- College developers view "local" development as *best* solutions from instructional standpoint.
- Colleges view collaboration as essential if development is to be accepted/adopted at other colleges.

  Colleges have made less effort in this respect and would like to find a better way both from the standpoint of sharing resources and expertise and the sharing of developed programs.

District Roles

- Provides support (money via IT and PEP grants) for development (Sp. 94 – $58,000 for IT and $53,000 for PEP).

  Are these enough? Should they also provide money for hardware?

- Provides training and technical support (instruction, instructional design, and programming) (MCLI).

  Is it enough to meet demand and is it consistent with need?

- Provides training for external grant writing.

  Should they also provide the writers themselves because of the limited time and skills the developer has for this activity?

- Perception that District gives more support to "administrative" software and programming, than to the instructional side.

  Should District allocate more ITS resources to the instructional side?

- District seems more inclined to support multi-college development projects (biggest bang-for-the-bucks).
- District encourages collaboration through Ocotillo and its committees and through grants.

  District has made many efforts in this respect but could they do better?

Emerging Technologies (ETC)

Members

Faculty Chair: Jim Walters, PC
Co-Chair: Juan Marquez, DIST

Cathlyn Hart, SMCC
Nancy Siefer, GCC
David Weaver, CGCC
Yvonne Zeka, GWCC
Jerome Baxter, PVCC
Liz Dorland, MCC
Laurita Moore de Diaz, SMCC
Darlene Swaim, MCC

Charge

The Emerging Technologies Committee (ETC) examines emerging technologies, hardware and software, and the issues and implications surrounding them. The goal of such technological investigation and evaluation is to contribute to quality instruction and learning.

Year in Review

ETC held three regular meetings during the year.

1. 10/12/93, District Office, Meeting to define possible goals.
2. 11/08/94, District Office, Meeting to set goals for the year.
3. 12/13/94, Phoenix College, Demonstration of Mosaic.

The ETC District-wide A1 distribution list @OCOETC was used to announce the meetings and agendas. At each meeting there was an average of four members, including the chair and support staff. Even with low attendance, we were able to establish a list of emerging technologies that the committee would like to explore. After some discussion, the use of the Internet in the classroom was chosen as the technology to investigate. A demonstration of Mosaic, a multimedia Internet client, was scheduled for the next meeting.

Even though the committee did not complete the exploration, the members who were interested in the Internet still had other opportunities to learn about it. Phoenix College offered two "Exploring the Internet" teleconferences during the year. The Training Services department also offers training on external networks and Gopher. After attending some of these training sessions, the committee members might be ready for specific applications of Internet in the classroom.

A project to develop guidelines on how to use the Internet in specific courses was funded for fiscal year 1993-94 by an internal grant from the Instructional Technology funds. The project number is IT93B-4, and it is being directed by Philip Tompkins and Chas T. Moore from Estrella Mountain Community College Center and Mesa Community College, respectively. When this project is completed, the information should be sent to all staff, so that we can be sure that the ETC members receive this report.

Conclusions

The definition of *emerging technologies* is very wide and encompassing. Each committee will determine what it means to them, thus allowing for varied outcomes from year to year. This year the membership focused on the Internet. There seems to be others outside of the committee that are interested in the Internet. Workshops, demonstrations, and teleconferencing on the Internet should be continued.

There are several technologists and faculty members exploring or using various emerging technologies, but what they are doing is not known to all faculty members in the District. We have to agree with what Matt Wozniak reported in the 1992-93 ETC Year-End Report:

> *I believe the poor attendance at each of our meetings (usually less than five participants) is a reflection of the difficulty of getting active faculty to find time to attend meetings during the semester. This poor turnout was very disappointing as there were many college leaders in technology that were not part of the committee's conversation.*
>
> *Finally, there is a tremendous amount of innovation and experimentation going on around the District. The meetings held at the colleges were very enlightening. Efforts at cross connecting the individuals involved in all levels of technological development from across the District should be continued and expanded.*

External Networks

Members

Faculty Chair: Janet Whitaker, MCC
Co-Chair: Vance Williams, DIST

Julie Bertch, RSCC
Sharon Blanton, SCC
Robert Carrigan, DIST
John Chavez, PVCC
Phil Cram, PVCC
Georgia Dillard, PC
Michael Farabee, EMCCC
Betsy Frank, RSCC
Gilbert Gonzales, MCC
Billie Hughes, PC
Bruce Huston, DIST
Eric Johnson, DIST
Deborah Krumtinger, DIST
Alan Levine, DIST
Kathy Lynch, GWCC
Tom McCann, DIST
David McCurdy, GCC
Catherine Osborn, DIST
Jim Rassi, PVCC
Melinda Rudibaugh, CGCC
Karen Schwalm, GCC
Russ Sears, GCC
Randi Sher, DIST
Sue Thomas, GCC
Philip Tompkins, EMCCC
Emma Walters, SCC
Jim Walters, PC
Richard Young, DIST
Chris Zagar, DIST

Charge

The External Networks Committee explores and shares knowledge about current and future instructional possibilities of external networks such as the Internet. The group encourages and provides opportunities for faculty to discuss ideas and needs for instructional applications of networking to improve the teaching and learning process.

Introduction

This Ocotillo committee differs from other committees in that the basic group has been in existence for several years. Technical and instructional membership was entirely voluntary and composed of people with the common interest of utilizing the resources available via external networks to benefit students. During the summer of 1993, it was determined that an Ocotillo committee was needed to examine issues relating to the use of external networks. Beginning with the September meeting of the External Networks User's Group (ENUG) the group took on the expanded role of an Ocotillo committee. The underlying purpose is the same, however, the environment has expanded and changed.

External network issues have moved from the fringe of academic pursuits to the national spotlight in a few short years. Many of the same technical issues that confronted the group in the late '80's are still with us. Now there are additional items ranging from equal access to free speech issues. There are committees within the District that exist solely to examine technical and resource issues. ENUG has moved towards the role of user advocacy. It is our belief that external network access, and computer access in general, will soon be as fundamental to education as a well-stocked library is today.

One benefit of the expansion into an Ocotillo committee is a widening of the participation in this group and an increase in the frequency of meetings.

Several threads have run through most of the meetings this academic year. These vary from specific technical topics to general policy and ethical issues. Each of these will be covered in a separate section. Each section will have a brief statement of the issue and a summary of the discussions that occurred during the year. Most of these discussions are ongoing, but where appropriate, a conclusion or statement of future directions is also included.

The Year in Review

Netstat:

Issue - A common method is needed to notify faculty, staff and students of network problems and outages.

Discussion - As users become more dependent on external network connections for the conduct of their endeavors, the need for timely notification of disruptions becomes critical. A number of options were examined. Some of the options that were considered and rejected included A-1 and VAX mail distribution lists. The maintenance of these would present a problem. Using an "All Users" approach would result in notification of many unconcerned users and could be perceived as an increase in electronic junk mail.

Resolution - A listserv has been established that allows appropriate personnel to post notices of network difficulties. This solution was proposed to computer operations personnel. They identified the individuals who would be best at identifying problems and posting notices. The listserv method allows subscription of interested parties and places the responsibility of membership on the user. To simplify access, the output of this listserv is fed to the Electronic Forum (EF) and a VAX Notes conference. These three access points, direct subscription, EF and VAX Notes insure access to all interested users.

Recommendation - This system has been well tested to this point and needs to be continued and expanded. Possible areas to be addressed in the future are expansion of the type of information transmitted, use of alternative paths (dial-out and dial-in modems to communicate microwave problems), and improved user to operator information paths.

User Info/Training:

Issue - This general area provided several distinct discussions. They all revolve around the general issue of making needed materials and other resources available to users.

Discussion - The constant change in network activities causes special problems in providing documentation and support. Some of the solutions discussed included the use of Gopher as a repository of information. This would allow rapid updating of information without the costs and delays associated with printed materials.

One deterrent to network usage appears to be the hesitancy on the part of some users to expose themselves to the possibility of making mistakes or asking "silly" questions in the environment of the open network. Several possibilities were discussed regarding the use of "practice" areas. These would be special electronic discussion groups formed for the sole purpose of practice.

Resolution/Current Status - Gopher areas have been made available for the storage of user training and information materials. To assist in the access to these materials, Training Services and several college training resources are now offering classes in Gopher to facilitate its use.

A practice listserv located at ASU is available for new users. Its use is encouraged and several of the listserv "experts" from Maricopa monitor the list to provide assistance. Some ASU classes have recently started using this list causing some confusion. As the activity level increases a Maricopa practice list may be formed.

Recommendation - Proceed with the establishment of a Maricopa practice list. This should also be the first step in taking Maricopa to an intermediate level of network activity. Areas of practice are needed not only for listserv subscribers, but also for potential list managers and owners.

Related activity - The rate of change in network matters has brought about the unusual situation where an expert is anyone who learns about something a day or two before someone else. Training issues are normally associated with one group (experts) conveying information to another group (users). Increasingly, this schema is inappropriate in computer activities. Collaboration and experience sharing are better models. To this end,

ENUG has established information exchange as a regular part of its meetings. In some cases there have been formal training or demonstration sessions scheduled as parts of meetings.

Netnews:

Issue - Netnews is an information rich network resource. Is access to Netnews something that Maricopa should implement?

Discussion - The primary difficulty in providing Netnews access is a hardware resource issue. Netnews requires approximately 100 megabytes of disk space per day of news received and stored. This space is required to store the roughly 2400 discussions that make up Netnews.

Resolution - Netnews is now available on an experimental basis with a four-day archive. Evaluation of supporting software and expanded implementation is continuing.

Policy Needs:

Issue - Are formalized, published policies needed for various areas of network usage?

Discussion - These are all continuing discussions. Some actions have been taken to facilitate the exchange of information.

Issues of ethics, ownership, and freedom of speech may differ in our academic setting from the publicized court cases in the business community. Dialogues should be established among interested parties to explore these areas. To this end, EF and VAX Notes have been utilized to share experiences and ideas. Several video conferences and events containing discussions in these areas have been attended by committee members to broaden our information and opinion base.

ENUG also sees part of its mission as addressing the need for a reflective area of discussion regarding network and communications issues. This is the area where issues of why can be addressed as well as the how and when questions. The changes in technology do not occur in a social vacuum. A safe harbor and a platform for discussion are needed for those who may have questions or concerns about the implications of technology.

ENUG is a group that is available for discussion. We are interested in listening to the people who are exploring new methods of communicating and teaching. We see the need for the construction of a body of experience in this complex environment. This groundwork in communication issues is needed, particularly in light of the growing interest and evolution of the National Information Infrastructure.

User Needs and Expectations:

In this general area, there were a number of discussions. They are all continuing and will simply be enumerated here.

Network reliability - The alignment of user expectations and operational realities is needed. One possibility that is being investigated is the implementation of regularly scheduled down times. This would allow the maintenance required by the systems and allow users to schedule their activities in light of system availability.

Next generation mail - As the e-mail industry evolves, we will continue to seek out and review new products.

Access points - The explosion in usage of our systems requires the continuous monitoring of access points and methods. Options for on-college and dial-in access need to be evaluated and shared on a regular basis.

Recommendations for the future:

It is recommended that this group's status as an Ocotillo committee be continued. As previously mentioned, this group was formed a number of years prior to its appointment as an Ocotillo committee. The association with Ocotillo has increased the participation in the committee and expanded the avenues available to the group for communication with others within Maricopa.

The growth of network uses and users is continuing. The types of discussions held by ENUG ranging from the practical to the ethical need to continue and expand with this growth.

Apart from the recommendations detailed in the body of this report, there are two general suggestions:

1. The committees of Ocotillo generate important information. The single annual report may need to be supplemented by interim reports. We would like to suggest electronic distribution of these reports. To start with, possibly just making the minutes of the various meetings available electronically would be a good idea. ENUG plans to make its meeting notes available next year via a method yet to be determined.

2. We would like to issue an open invitation to all interested parties to contribute to our discussions. The exposure provide by publication of our minutes should help stimulate interest and awareness of our activities.

Information Literacy

Members

Faculty Chair: Linda Evans, MCC
Faculty Chair-elect: Florence Landon, MCC
Co-Chair: Gilbert Gonzales, MCC

Georgia Dillard, PC
Marcia Melton, MCC
Donna Rebadow, PVCC
Susan Starrfield, SMCC

Charge

The Information Literacy Committee's charge is to clarify the concept of "information literacy," that is, to identify the critical and analytical skills students must develop in order to use information appropriately and judiciously. The group will look at how we address information literacy within the Maricopa Community Colleges.

Introduction

The Ocotillo Information Literacy Committee evolved out of what was once the Ocotillo Library Users Committee. During the past few years, we discovered that our discussions centered increasingly around issues related to information literacy. At the end of last year, one of our recommendations was that we redefine our group, our name, and our focus. Our primary objective this year has been twofold: to define what information literacy means and to consider options for implementing information literacy programs and curriculum across MCCCD and across the curriculum.

Year in Review

The Ocotillo Information Literacy Committee has spent much of the 1993-94 year researching and listening to what others have done in the area of information literacy. We looked at a number of articles dealing with definitions of information literacy only to discover that there is both a common ground of goals and competencies and a diversity of ideas about what constitutes information literacy. Additionally, we looked at models of information literacy already in place to determine what was successful and what needed improvement in each model. We were fortunate to have an opportunity to invite Dennis Isbell, a librarian at ASU West, to speak to us about how ASU West approached the issue of information literacy. This is an example of a school that devoted time and resources to promoting information literacy from the inception of the school. Mr. Isbell was helpful in directing us to some philosophical bases for information literacy curriculum as well as describing the model being piloted at ASU West. We used that model as one of the three options we have identified for implementation of information literacy across MCCCD. In addition, the group was able to explore the use of information technologies becoming available across MCCCD, such as Gophers and MUSEs. As a result of our research, we composed two documents which we feel serve as a foundation for future work in this area.

Definition of Information Literacy

Information literacy is the ability to identify what information is needed and the ability to locate, evaluate, and use information in solving problems and composing discourse. It encompasses a set of competencies that will provide for survival and success in an information technology environment. The Secretary's Commission on Achieving Necessary Skills (SCANS) report identifies information literacy as one of five essential skills that the workplace will demand of employees of the future. Teaching information literacy involves communicating the power and scope of information as well as explaining how information is organized, how it is retrieved through a variety of access sources and tools, and how to evaluate, organize, and apply information to a variety of problems and situations.

Information Literacy Competencies

The information literate person can:

A. Understand the basic organization of a college library/information center and the significance of the growing and changing world of information access.
   1. Know different types of access tools available in various formats, electronic (e.g., online catalogs, CD-ROM databases), audiovisual, and print reference sources.
   2. Navigate the information highway with vehicles such as Internet, BITNET, and other networks.

B. Identify the information needed.
   1. Select appropriate subject terms and/or keywords.
   2. Determine type of information needed such as popular vs. scholarly, primary vs. secondary, current vs. retrospective, and so on.

C. Develop a search strategy.
   1. Identify types of sources needed, e.g., books and/or periodical articles.
   2. Select appropriate reference sources.
   3. Determine availability of periodicals.

D. Evaluate the information content.
   1. Understand the implications of the difference between information and knowledge.
   2. Analyze sources for quality, relevance, timeliness, and authority.

E. Apply information appropriately in a research task.
   1. Integrate information resources into academic discourse.
   2. Apply principles of academic honesty in crediting information sources.

Options for Implementing Information Literacy Curriculum

We have evaluated a number of models in place nationwide for implementing information literacy curriculum. Our evaluation has focused on the viability and appropriateness of these models to our own district, which is comprised of multiple sites with various levels of information technology. Ultimately, we arrived at a list of three models that warrant further study.

1. **Information Literacy as a Stand-alone Course**. In this model, students would take a course devoted strictly to teaching information literacy skills. This would be similar to our current library instruction, but far more extensive. Students would take a pre-test and a post-test to assess their achievement in mastering information literacy competencies. We might consider allowing students to test out of the requirement if they scored above a certain level on the pre-test, as we currently do with the critical reading requirement. One of the concerns about stand-alone information literacy curriculum is staffing. Our current librarians could not handle the enormous addition to their workload. A course like this could be offered by an alternate means of delivery, such as remote access through modems and/or self-paced study guides. It could also be scheduled on an open-entry/open-exit basis, although the committee is well aware that this kind of learning

will require contact with resource persons in the library. Computer-managed instruction components could be used to ease the burden of paperwork for the instructor.

2. **Information Literacy Integrated into an Existing Research Course**. We might also want to look at incorporating information literacy competencies into an existing research course. Given that ENG102 is required of all graduating students, it is one logical option. Of course, this would require collaborative teaching arrangements among English faculty and information specialists, so staffing remains a concern under this model. Some models for this type of arrangement already exist across the District. For example, Chandler/Gilbert Community College has experimented with teaching a library skills course in conjunction with ENG102. This model raises a question of process. It might be necessary to modify ENG102 to increase the credits students receive in light of the expanded content of the course. This, in turn, raises the question of transferability of ENG102 credit to state universities.

3. **Information Literacy Component Added to a Discipline-Specific Course**. The information literacy model closest to home is that in use at ASU West. ASU West has made a strong commitment to promoting information literacy among its students. Dennis Isbell, a librarian at ASU West, shared with the committee how he works with classroom faculty to teach an information literacy component in a 300-level course in American Studies. In this model, students become familiar with specific information resources they are likely to encounter in their academic majors and in their careers. This model requires close collaborative ties among classroom faculty and library faculty, which would place a burden on staffing. Also, there is a good deal of work to be done in designing information literacy components for a variety of academic disciplines. Another concern is that students may not be prepared to select a major at the freshman or sophomore level, so this model would work best for students who are relatively certain of their educational and career paths. For example, nursing students would certainly benefit from a discipline-specific approach to information literacy.

Conclusion/Future Goals

The committee recognizes that the topic of information literacy is a complex issue and that the best approach might well prove to be a variety of approaches. We feel that the models we have identified offer a springboard for other experiments in preparing our students for life and work in the Information Age. Further, as the District Curriculum Committee considers new ways of making our students information literate, the Ocotillo Information Literacy Committee hopes to move forward in 1994-95 with specific curricular recommendations and specific plans for piloting some of the options that we have selected as feasible for MCCCD.

Intellectual Rights

Members

Faculty Chair: Richard Felnagle, MCC
Co-Chair: Janice Bradshaw, DIST

Dorothy Cope, PC
Pam Davenport, CGCC
Frank Gonzales, MCC
May Lou Mosley, PVCC
Linda Rosenthal, GOV. BOARD
Jill Seymour, GCC
Naomi Story, DIST

Charge

Intellectual Rights examines the impact of the federal copyright law on the educational community. Included in the study are rights and responsibilities of faculty and staff in the use and reproduction of printed and video material as well as computer software. Ownership rights of employees who author materials at the workplace is also under discussion. Policy recommendations are expected regarding the issue of faculty ownership of materials they produce.

Introduction

The committee had three general goals for the year. The first was to continue efforts made in previous years to promote an increased awareness of the ways in which the copyright law affects classroom teachers. The second was to attempt to develop some copyright guidelines to assist developers of multimedia instructional materials. The third was to assist Janice Bradshaw, MCCCD General Counsel, to develop a policy statement regarding proprietary rights.

Year in Review

- **Increasing awareness of copyright laws.**

  In the first area, the committee's chief activity was to sponsor a two-day visit to the District by Ivan Bender, a noted copyright attorney and counsel for the Association for Information, Media, and Equipment. Bender visited the District on February 10th and 11th. Activities included tours of facilities at Mesa and Glendale Community Colleges, where there were meetings with faculty developers and staff to discuss copyright issues. Bender also made an interactive presentation via the Maricopa Video Conference Network (VCN) to several colleges. The presentation was videotaped and is available through the MCLI.

- **Defining copyright guidelines for development of multimedia**

  The committee experienced considerable frustration because as yet, no truly meaningful guidelines have yet been developed by any significant national authorities. However, the committee was interested to learn that the Consortium of College and University Media Centers is sponsoring a national meeting in Washington D.C. in June to begin work on such guidelines. Ivan Bender is directly involved in this conference, and as a result of Bender's visit to our District, Mary Lou Mosley has been invited to be a presenter and a full participant representing the community college view (and MCCCD) at this conference.

- **Developing a policy statement on proprietary rights**

  The committee again experienced frustration trying to reach a consensus on the details of a statement of proprietary ownership.

Recommendations for Next Year:

1. The committee feels that the Intellectual Rights Committee should go on hiatus for the next year. Our hope is that in the next year, the Consortium will serve as the catalyst for the creation of meaningful copyright guidelines for the use of multimedia, such as those produced for off-air videotaping. After that time, the Intellectual Rights Committee should be reconvened to study those guidelines and assist in their interpretation for faculty developers in the District.

2. A task force should be formed specifically to address the issue of proprietary rights. Such a task force should include representatives of the Deans of Instruction, faculty developers, staffs of faculty development centers (such as the Center for Teaching and Learning at Mesa Community College), the District Legal staff, and other interested groups. The task force should be specifically charged with evolving a philosophy of ownership to shape the creation of an official District policy.

Mechanisms for Technology Evaluation and Implementation

Members

Faculty Chair: Marybeth Mason, CGCC
Co-Chair: Naomi Story, DIST

Janet Gesin, PC
Maria Harper-Marinick, DIST
Laura Helminski, RSCC
Patricia Holmes, GCC
Carol Ilstrup, GWCC
Alan Jacobs, SCC
Karen Kabrich, PVCC
Chas Moore, MCC
Janet Reckmeyer, GCC
Bud Sessions, SCC
Suzann Shepard-Smith, EMCCC
LynnAnn Wojciechowicz, SMCC
Ted Wolter, CGCC

Charge

Mechanisms for Technology Evaluation and Implementation Committee discusses and defines the mechanisms for infusing or not infusing technology after "it" has been tested or developed. This group also investigates the requirements necessary for "grass roots" implementation (resources, support, etc.) and the best time for individual colleges to take responsibility for implementation. Process and models for evaluating efficacy of instructional technologies have been discussed and will continue to be discussed.

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Introduction

The charge of the Mechanisms for Technology Evaluation and Implementation Committee was to continue the work begun by the committee in 1993. We hoped to refine and test the description outlined in Schema I (1993 Ocotillo Report, 34-35), the process by which innovations move from idea to broad implementation.

Year in Review

We gathered data through interviews with faculty who had successfully implemented innovations within the District (i.e., Electronic Forum, Glendale Community College Assessment Program, Collaborative Learning, etc.) We defined the context of innovation as technology-based and non-technology-based endeavors. Then we identified the similar features which contributed to the success of each innovation and outlined those common features in the flowchart on the next page.

Conclusion

As a result of our research, the committee came to the following conclusions:

- A successful classroom innovation begins at the college level with faculty and staff who have identified an instructional need. The innovative idea is supported by sound research and a clear rationale, then formulated into a goal with obtainable objectives.

- Without collaboration and support from others, which may include colleagues, staff, and administrators at the local and District level, the innovation may never get off the ground. The idea must be piloted on a small scale and thoughtfully evaluated to determine whether to complete the project, revise it, expand it, or "bail out."

- Broader implementation demands the expansion of support financially and administratively, and a "buy in" by colleagues, often motivated by incentives. Ongoing training, follow-up, support, and evaluation, sustained over a three to five year period, will ensure permanent integration.

- The committee wished to stress that innovators must be willing and encouraged to take risks, make mistakes, and even abandon an idea that once may have seemed to have great potential. "Bailing out" on an idea is not a bad thing.

Future Goals

In the future, the committee would like to look more closely at successful training models, internal grants process, faculty burn out, and expanding the involvement of part-time faculty in innovation and change.

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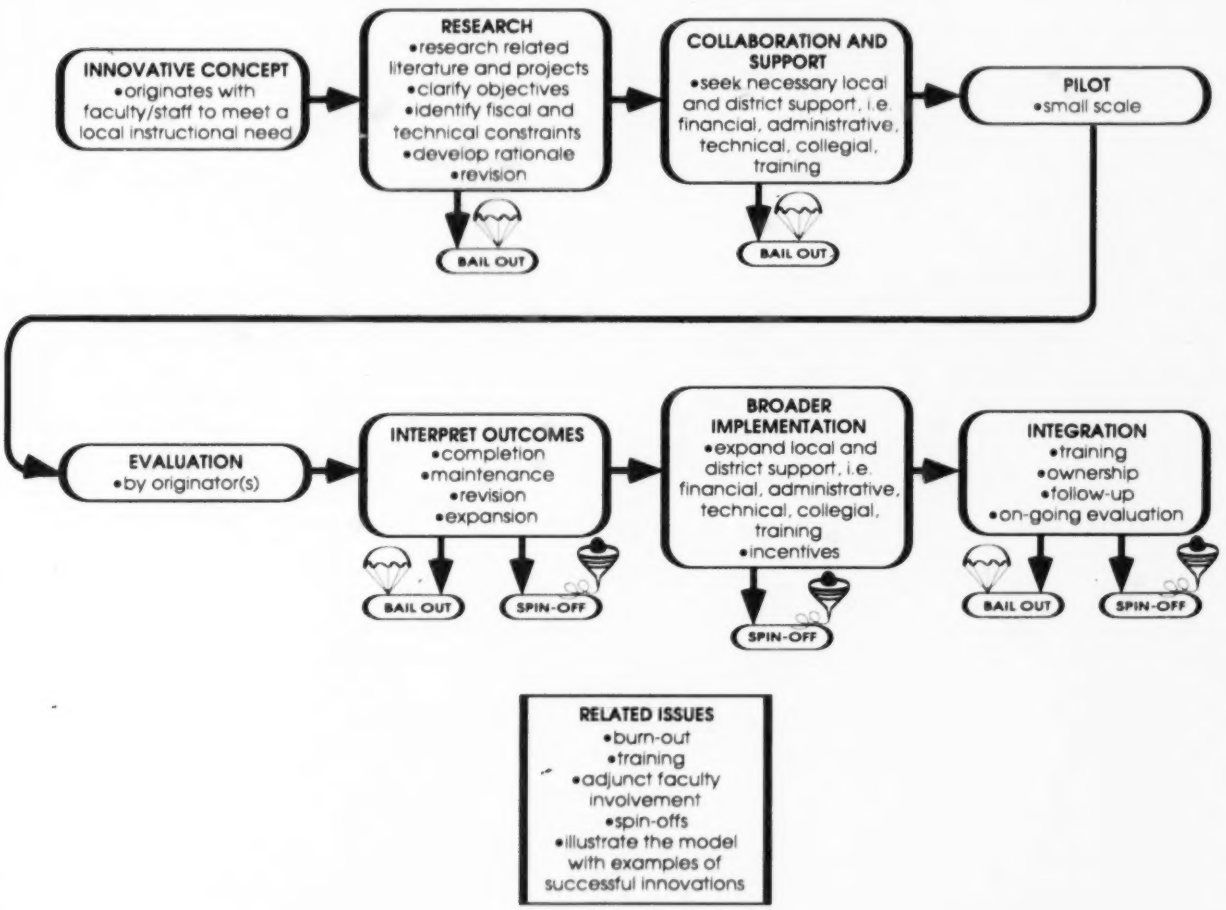
Timeline for Change: Idea to Implementation

The following is a chart that describes a flow for innovation from concept to college integration. It also includes related issues which require further discussion.



RELATED ISSUES
- burn-out
- training
- adjunct faculty involvement
- spin-offs
- illustrate the model with examples of successful innovations

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Open-Entry/ Open-Exit "OE/OE"

Members

Faculty Chair: Patti Marsh, PVCC
Faculty Co-Chair: Brenda Nielsen, MCC
Co-Chair: Lupe Gutierrez, DIST

Mary Alcon, MCC
Angela Ambrosia, PC
Sandy Belisle, PVCC
Virginia Cantu, DIST
Kimberly Chambers, SCC
Linda Collins, RSCC
Richard Felnagle, MCC
Kathy Green, PC
Betty Greenwood, DIST
Maria Hesse, CGCC
Roxana Maskell, GWCC
Cathy Meschke, GWCC
Suzanne Murry, GCC
John Nylander, GWCC
Shirley Petras, GCC
Connie Rainey, GWCC
Chris Stein, GWCC
Roger Yohe, EMCCC

Charge

In response to student needs for classes which do not follow traditional timelines, the OE/OE Committee proposes standard District-wide policies, procedures, and recommendations regarding OE/OE programs.

Introduction

The Ocotillo Open-Entry/Open-Exit Committee evolved from a broader-based Ocotillo committee which addressed non-traditional education. Many of the members on this committee have been active members for five years. In response to student needs for classes which do not follow traditional timelines, the Open-Entry/Open-Exit (OE/OE) committee proposes standard District-wide policies, procedures, and recommendations regarding OE/OE programs.

Year in Review

Human Resource Issues

The committee recommended that a task force be established to systematically review and revise employee job descriptions which relate to instructional computing.

Meetings were held with the Director of Human Resources and with the Vice Chancellor of Quality and Employee Development, Dr. William Waechter. The Presidents' Council was also made aware by several OE/OE faculty members of the recommendation.

Dr. Waechter assigned the Manager of Compensation to review the job descriptions and possibly compile a new job description. The Presidents' Council decided not to address the situation as a whole but rather approach it on an individual basis.

Computer Lab Fees

Computer-related lab fees seem to reflect each college's assessment of needs and vary widely from college to college. A report to the Vice Chancellor for Educational and Student Development, Dr. de los Santos, prepared by the OE/OE Committee, has been sent describing the diversity of the fees assessment throughout the District. The committee has discussed this as being a college-based issue at present and not a standardized procedure throughout the District.

Faculty Evaluations

A concern about the evaluation of OE/OE faculty was raised early in the year. The concern was that the standard evaluation form does not address issues unique to the OE environment and, in many areas, just does not apply. For example, "Uses class time well" does not apply. Whereas, criteria regarding the lab environment and preparation of good learning materials are paramount.

Lupe Gutierrez was able to find out that, for part-time faculty, it is up to each individual college to determine their format for evaluations. Each college, who has since developed their own format (most are adaptations from Glendale Community College's model), has contributed a copy to the Resource Manual to share among the college.

Orientation Project

An interactive computer-based orientation program is being designed by the OE/OE Committee with the help of the Maricopa Center for Learning and Instruction (MCLI). The "Orient Express" will help students become familiar with computer lab policies and procedures, as well as open-entry/open-exit procedures and success strategies.

Committee members are working on the content issues, while the MCLI is providing instructional design and programming support. It is expected that an Orient Express template, which can be modified and personalized for specific college needs, will be available to interested colleges by early Fall 1994.

PVCC Multidisciplinary OE/OE Model

The PVCC Multidisciplinary OE/OE Model was presented to the committee by Sandy Belisle and Patti Marsh. The model was developed to allow PVCC to start an OE/OE program that would encompass all OE/OE courses in all divisions under the same plan. The intent was to provide consistency in all OE/OE courses in terms of policies, procedures and marketing strategies which ultimately would better serve the students. The model was developed using the Ocotillo OE/OE Committee as an on-going resource for strategies and support materials.

INFORM

This committee strongly recommends that the INFORM system is supported and maintained until a new product is in place. INFORM is critical for tracking and communicating with students enrolled in OE/OE courses.

Loading

A recommendation for loading for OE/OE courses and/or faculty was made in the 1991-92 Ocotillo year-end report. When requested to revisit the recommendation, the committee chose to stand by the recommendation and reaffirm the following:

> The committee agreed that it was necessary to convey the message to Deans, Division Chairs, and others involved in making decisions for OE/OE classes, that the faculty teaching OE/OE courses do not work any less than their structured class counterparts. They just work differently. Therefore, it was fair to load an OE/OE course with approximately the same number of students as a similar structured course might have. If a structured class with ***xx*** students generates ***y*** faculty load, then a similar OE/OE course with ***xx*** students should generate ***y*** faculty load (assuming equal credit hours). On the other hand if a college is in the process of building a new program, some courses may be allowed to "make" with fewer than the normal number of students, to get the program off the ground. This same philosophy might need to be followed at colleges which are trying to get OE/OE courses started.

In other words, the decision-making process for determining load for an OE/OE class should parallel the decision-making process at the college for traditional structured courses.

OE/OE Resource Manual

Members of the committee contributed support materials for an OE/OE resource manual which will be duplicated, bound, and delivered to all committee members and other interested parties. The OE/OE manual will include samples of the following:

1. Part-time faculty evaluation forms
2. New faculty packets
3. Advisement literature
4. Orientations
5. Marketing and schedule information
6. Follow-up surveys
7. Enrollment agreement/contracts
8. Computer lab rules and policies

Conclusion/Future Goals

The year has been one of communicating concerns through appropriate channels, gathering and disseminating information to interested parties, and discussing and coming to consensus on critical issues.

Student success in OE/OE courses will continue to be a priority of the group. There still seem to be some infrastructure issues that remain to be clearly defined and resolved. The interactive orientation program (the "Orient Express") remains an on-going project.

The consensus of the committee was that perhaps we have moved out of the visionary scope of Ocotillo and have become more of a functional group dealing with the "here and now" issues of coordinating OE/OE programs. We will investigate the possibility of transitioning into a District OE/OE coordinator's group, so that we can continue our dialogue and exchange of ideas and work to resolve issues of concern that are unique to the OE/OE environment.

Technology-based Testing

Members

Faculty Chair: Mary Ryan, GCC
Co-Chair: Maria Harper-Marinick, DIST

Pat English, MCC
Mark Foshee, GCC
Pam Raman, SCC
Sue Thomas, GWCC
Suzanne Van de Putte, PC
Yvonne Zeka, GWCC

Charge

Technology-based Testing identifies models for a technology-based testing system. Discussions will include an investigation of assessment ideals, an inventory of testing models that are currently available, and the issues and implications of developing such technology-based testing systems.

Introduction

Since the majority of the committee members were Nursing faculty, it was decided initially that the committee would focus its efforts in the development of a computerized "math for meds" tutorial and test that could be available for use by each college's nursing department. The Ocotillo General Faculty Chair, Maria Hesse, suggested that the committee look into more global issues related to technology-based testing and provide insight useful beyond a particular discipline. The committee members were reluctant to put aside the "math for meds" project and with further discussion came up with a modification. The committee would attempt to outline the issues concerning technology-based testing that were encountered while researching the initial project. In addition, a survey would be sent to residential faculty throughout the District to identify interest in use of computer testing.

Year in Review

- The committee met five times during the academic year. The "math for meds" tutorial was explored. A number of issues were raised in trying to work on the project.

    1. It is difficult to develop a product to be used at more than one college if objectives and competencies for a course differ from college to college.

    2. Software needs to be developed for both DOS-based and MAC systems due to differences in hardware available at the different colleges.

    3. When different Nursing publishers were contacted to see what software already exists, the publishers were interested in having such a product developed. Members were unsure of what course to take in the District to respond to the publishers' interest.

    4. A computer math test for nursing exists at Phoenix College; however, personnel to maintain and upgrade the software is not available.

- The committee conducted a survey regarding faculty interest in use of computer-based testing. The original instrument was developed and administered at Glendale Community College (GCC) in February. A revised version was sent to all MCCCD faculty in March. The MCLI did the mailing and Yvonne Zeka (GWCC) collected the results. Mark Foshee (GCC) worked on the summary. Results of the survey, including the GCC data, are discussed next.

District-Wide Survey of Interest in Computer-Based Testing

Computer-based testing has become technically possible. The purpose of this survey was to find out if District faculty were interested in pursuing this testing option. The survey was sent to full-time faculty at all of the colleges in the District, with the exception of GCC, since a similar survey had recently been conducted there. However, results from the GCC survey have been included in this report. A total of 254 faculty responded to the survey.

While 28 questions were asked, clearly the most significant questions were whether computer-based testing was desired and if there was support for the creation of dedicated testing facilities at each of the colleges.

Support for computer-based testing was strong. About 80% (204) of respondents "agreed" or "strongly agreed" to support efforts to obtain or develop a computer-based testing program (See Chart 1). Support for the program was consistent throughout the District with percentage of favorable responses ranging from a low of 63% at Mesa Community College to 100% support at Estrella Mountain Community College Center and Rio Salado Community College.

The concept of a dedicated testing facility at each college received only slightly less enthusiasm. About 76% (189) of respondents supported establishing such facilities (See Chart 2). The level of support, however, varied widely throughout the District. Only 33% of respondents from Chandler/Gilbert Community College and South Mountain Community College favored such facilities compared to about 90% support from Gateway Community College and Paradise Valley Community College.

The survey results highlight clearly defined support for computer-based testing throughout the District. While the precise desires varied from college to college, the evolution of testing appears to include computers on an ever greater scale.

It should be noted that some of the more extreme figures may be the result of unusually low samples from some colleges. For example, only two surveys were received from Estrella Mountain Community College Center. Thus, the averages are the most accurate indicators. The complete survey and survey results are available at the Maricopa Center for Learning and Instruction (MCLI).

Conclusion/Future Goals

Based on our meetings and the survey, the committee identified the following five conclusions or goals concerning technology-based testing.

1. There is value in interdepartmental/ inter-college teams working on educational tools and processes together. Some of us are pragmatists and would like to do more than dream when we are a member of an enthusiastic, congenial group.

2. A list of what's available on different colleges for computer testing, with names of persons to contact, might assist people in getting started on projects they are interested in working on.

3. Faculty and staff are developing tools helpful in teaching. When outside organizations are interested in these tools, it is difficult to know what process to follow in response to that interest. Must it always be entrepreneurial (i.e., pursued outside the Maricopa system)? Could cooperative ventures of our system with other organizations, in terms of personnel or money, be mutually beneficial and fit within our mission statement of community service?

4. Members of the committee are interested in continuing to work on the project. The presence of expertise in math, nursing, and programming supports the possibility of a good product.

5. Survey results (25% returns) from all colleges support the use of computer-based testing. A focus on what's available on different colleges for computer testing (#2 above) would be a logical step in response to the survey results.

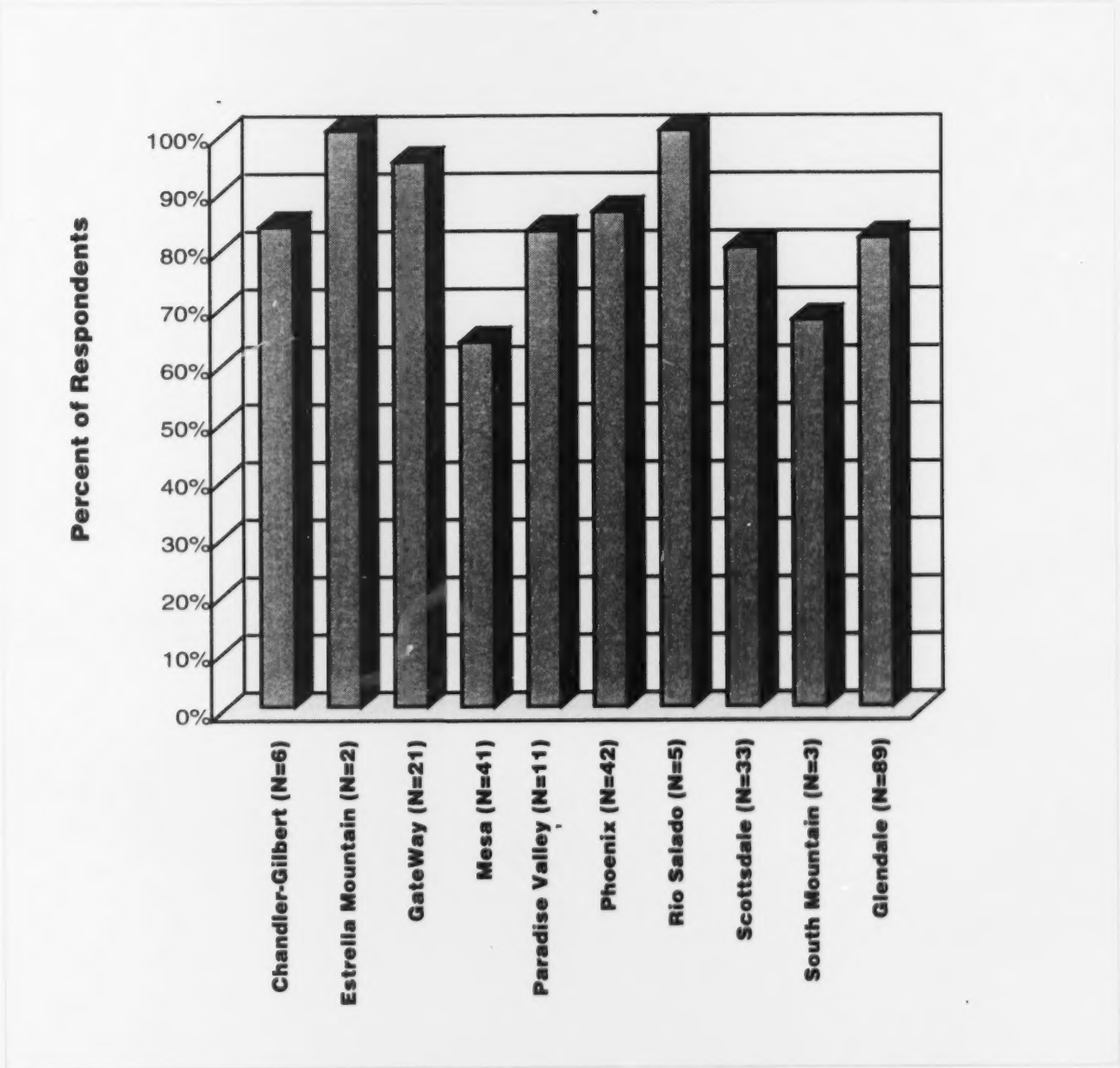

Chart 1: Percentage of Respondents in Favor of Obtaining/Developing a Computer-based Testing Program

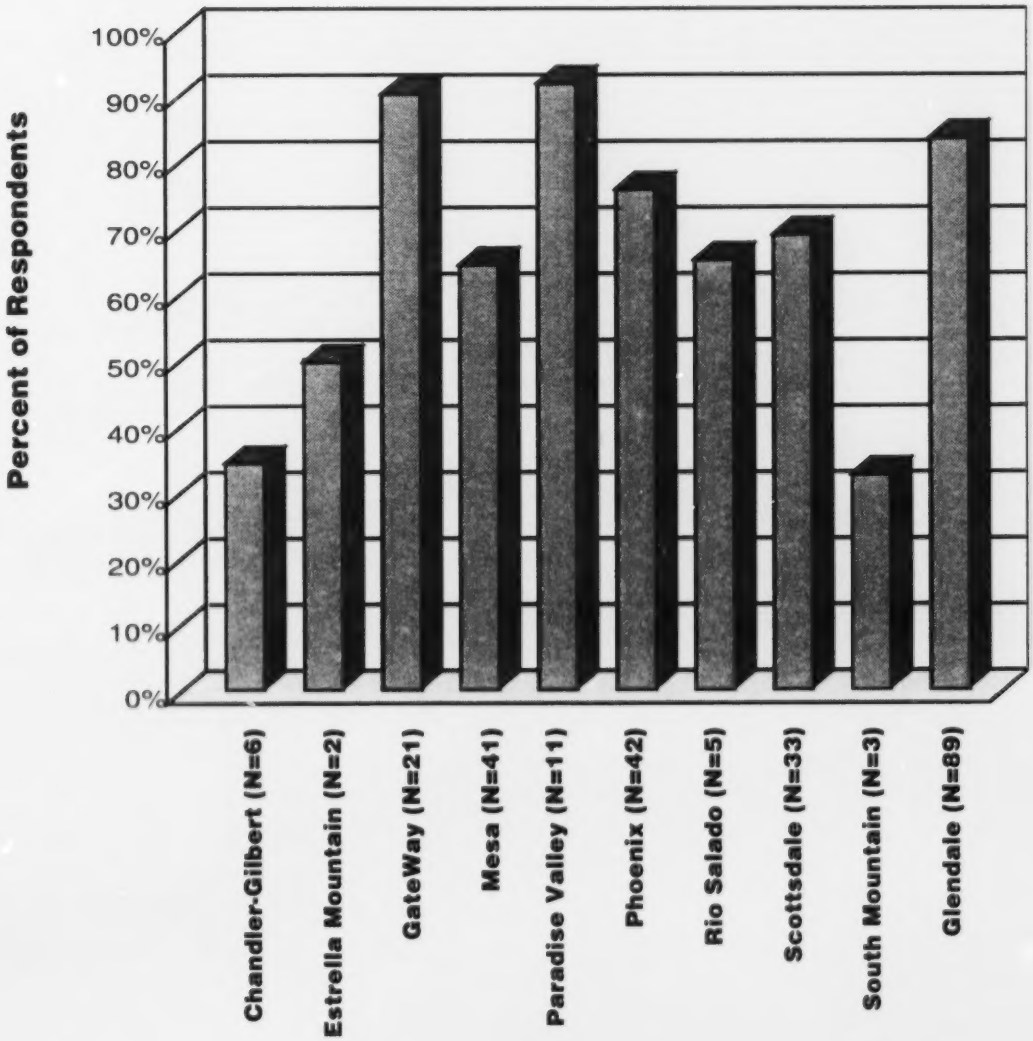

Chart 2: **Percentage of Respondents Supporting a Dedicated Computer-Testing Facility.**

Technology Training

Members

Faculty Chair: Pearl Williams, EMCCC
Co-Chair: Debbie Krumtinger, DIST

Linda Austin, GCC
Chrystle Hall, DIST
Nancy Johnson, GWCC
Margaret Macias, PC
Marie Olsen, MSC
Dean Peterson, CGCC

Charge

The Technology Training group will focus on a plan for preparing faculty to use technology and providing ongoing training and support for faculty. Discussions will address issues such as educating faculty past the stage of computer literacy to computer proficiency, educating faculty on issues of technology specific to their curriculum areas, and providing ongoing support.

Introduction

This report focuses on identifying training and support for new and continuing faculty; defining levels of training; identifying guidelines for implementation; and discussing the assumptions and issues surrounding the use of technology in facilitating communication, teaching, and learning. The members of the committee recognize that a search for new systems is currently under way. Thus, the levels of training and guidelines for implementation are generic.

The Ocotillo Technology Training Committee focused on the following charge:

- Preparing faculty to use technology.
- Providing ongoing training and support for faculty.

The committee considered the following assumptions:

- All faculty are willing to utilize technology if training and support are available.
- Maricopa County Community College District and its colleges will train and support faculty in the use of technology.
- Time will be a serious challenge.

The following issues emerged:

- Time
- Diverse training needs
- Hardware availability
- Training issues and areas of opportunity

Year in Review

The committee explored the concept of providing training and support for new and continuing faculty. Dynamic discussion included assumptions, issues, and the diversity of faculty needs. It is evident that each college has some faculty who are sophisticated technology users while others are at beginning, or intermediate level, or are reluctant users. Consequently, the consensus of the group was to design levels of training and support mechanisms to address a variety of needs. (See Addendum)

Additionally, the committee members conducted an informal survey of college training practices. The results indicated that consistent on-going training with mentors would be helpful. The general consensus of the committee was that time, budget, hardware availability, and support are major constraints to equitable training for all faculty. The latter two are most in need of improvement.

Subsequently, the committee made two key recommendations: (1) that the first level of training be mandatory for new faculty and should be a part of new employee orientation, and (2) that professional growth incentives be attached to training levels for both new and continuing employees.

Conclusion

It is the hope and the intent of this committee that adequate training of new employees will remove their reluctance to use technology and will encourage them to explore opportunities in this area. The establishment of a network of college technology mentors should help continuing as well as new employees to feel more comfortable with the "continuing education" required by ever-changing and developing technologies. Availability of appropriate hardware and software is also crucial to the success of these recommendations.

The use of technology is no longer optional; it is essential to effective communication and for the delivery of quality service in teaching and learning. Therefore, we at Maricopa County Community College District cannot afford to let technology training occur by chance. This training must have a priority in Maricopa's investment of personnel, capital dollars, and time for training.

Addendum

Level I: Survival Skills for New Faculty

Activity	Timeline
1. A1: E-Mail Basics	Session 1-1st Week
• Advanced E-Mail	Session 2-1st Week
2. Telephone Training	Session 1-1st Week
• Voice Mail (one class)	Session 1-1st Week
• College/District Specific	
3. Fax Training	Within 1st Semester
• College Specific	
4. Time/Calendar Management	If/When Necessary
• College/Department Specific	

Recommendations for Level I:

Level I is mandatory for new faculty and should be part of a New Employee Program. Level I is recommended for continuing faculty. Level I should have professional growth incentives. All necessary job aids should be available on new faculty desks. A college technology/department mentoring team should be assigned to new faculty members.

Addendum continued

Level II: Basic Computing Skills

Activity	Timeline
1. Basic Computing Literacy Training • Hardware • Software Operating System • College/District Specific	Session 1-1st Semester
2. Introduction to IBM/MAC • Operating System • Word Processing • Data Base • Spread Sheet • Graphics • College/District Specific	Session 1-1st Semester
3. Electronic Forum • College/District Specific	Session 2-1st Semester
4. External Information Access • Internet • Gopher • Mosaic	Session 3-1st Semester
5. Library Information Access	Session 1-1st Semester

Recommendations for Level II:

This level is optional. Some faculty will need specific sections for the training. It is recommended that these classes be taught within the first semester, continuing thereafter. The classes should also be college specific.

Level III: Advanced Training

Activity	Timeline
1. Accessing Student Records • MAPS • SIS	As needed
2. Creating Presentation models • Persuasion • Powerpoint	As needed
3. Using Grading Systems • Inform • Others Designated by College/Department	As needed
4. Desktop Publishing for Brochures • Pagemaker • Harvard Graphics • Others	As needed
5. Using Authoring Systems • Toolbox • Hypercard • Others	As needed

Recommendations for Level III:

This type of training and the timelines will depend on specialty or job responsibilities.

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